IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant(s):	Kockmann et al.
Appl. No.:	09/446,545
Conf. No.:	2480
Filed:	March 16, 2001
Title:	METHOD AND ARRANGEMENT FOR EFFECTIVE RADIO TRANSMISSION OF DATA
Art Unit:	2663
Examiner:	Soon D. Hyun
Docket No.:	112740-497

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

Appellants submit this Appeal Brief in support of the Notice of Appeal filed on October 13, 2004. This Appeal is taken from the Final Rejection dated July 13, 2004.

I. Real Party in Interest

The real party in interest for the above-identified patent application on appeal is SIEMENS AKTIENGESELLSCHAFT, by virtue of an Assignment filed May 30, 2000 and recorded at the United States Patent and Trademark Office at reel 010874, frame 0955.

II. Related Appeals And Interferences

Appellants' legal representative and the Assignee of the above-identified patent application do not know of any prior or pending appeals, interferences or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision with respect to the above-identified Appeal.

III. Status of the Claims

Claims 11-19 are pending in the above-identified patent application. Claims 11-13 and 15 stand rejected. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim. Accordingly, Claims 11-13 and 15 are being appealed in this Brief. A copy of the appealed claims is attached as Appendix A.

IV. Status of the Amendments

Appellants submitted a Response to the Non-Final Office Action of December 15, 2003 on April 14, 2004. The Response was also pursuant to an Examiner Interview conducted on February 12, 2004. In the Response of April 14, 2004, Claim 11 was amended. The Final Office Action dated July 13, 2004 contained the same rejections presented in the Non-Final Office Action. This Appeal was subsequently filed, with no intermediary responses or amendments.

V. Summary of the Claimed Subject Matter

A summary of the invention by way of reference to the specification for each of the independent claims is provided as follows:

Independent Claim 11 is directed to a method for digital radio transmission of data between a fixed station and at least one mobile station at one of a number of carrier frequencies, comprising: transmitting data in a number of time slots using a time-division multiplex method, said data being transmitted in active time slots, wherein each of the active time slots is followed by an inactive time slot in which no data is transmitted, said inactive time slot having a time duration shorter than a time duration of an active time slot; and changing from a first carrier frequency to a second carrier frequency after a predetermined time period having an order of magnitude of one time slot, wherein changing from the first carrier frequency to the second carrier frequency is performed during the inactive time slot by a RF module.

An exemplary fixed station and at least one mobile station are disclosed in the drawings and specification as references 1 and 2-3, respectively in FIG. 1 and in the original specification on page 6, line 21 – page 7, line 5. The carrier frequencies are disclosed as references f_1, f_2 . . . in the examples shown in FIGs. 2-4 and related text.

In the exemplary embodiment illustrated in FIG. 3, slow hopping RF modules are provided for radio transmission, where each active time slot in which data are transmitted is followed by an inactive time slot (blind slot), in which no data can be transmitted (possible active time slots are shown shaded in FIG. 3). In the example, if twelve time slots Z1 - Z12 are provided (6 time slots Z1 - Z6 for transmission from a mobile station to the fixed station and 6 time slots Z7 -Z12 for transmission from the fixed station to a mobile station), then there is a maximum of only three possible links available. Accordingly, the usable channel capacity is not very great due to the regulation by the slow hopping RF module to a maximum of three links (specification page 7, line 28 – page 8, line 4).

Transmission from the fixed station 1 to a mobile station 2, 3 can be made at the carrier frequency f_2 in the time slot Z1 (RX1). If this time slot Z1 is followed by a time slot Z2, in which no data transmission takes place (inactive time/blind slot), a slow hopping RF module can also use the time duration of the inactive time slot Z2 to change the carrier frequency. As illustrated in FIG. 3, the carrier frequency can be changed, for example, from the carrier frequency f_2 to the carrier frequency f_1. Accordingly, a transmission can be made in the time slot

Z3 from the fixed station to a mobile station, at the carrier frequency f_1 (RX2). Under a given time slot distribution, an active time slot (shaded) can be operated at each of the predetermined carrier frequencies (f_1, f_2 ...) (specification page 8, lines 4-21). If it is found in time slot Z1 when transmitting (RX1) at the carrier frequency f_2 that the reception or transmission conditions are better at the carrier frequency f_1, then it is possible to change, during the time duration of the time slot Z2 in which no data transmission takes place, to the carrier frequency that has been identified as being better. The transmission RX2 takes place during the time slot Z3 at the carrier frequency f_2 which has been identified as being better (specification page 8, line 34 – page 9, line 4).

In the exemplary embodiment of FIG. 4, a time slot structure is disclosed that allows the maximum possible number of links to be increased from three to four without there being any negative effect on flexible selection of the carrier frequencies from one active time slot to the next active time slot. This increase in the maximum number of links from three to four is achieved by the time duration of an inactive slot, during which no data transmission takes place, being shortened in comparison with the time duration of an active time (specification page 9, line 20 – page 10, line 26)

Dependent Claim 12 is directed to the method of claim 11, wherein a time duration of an inactive time slot is half that of a time duration of an active time slot.

Dependent Claim 13 is directed to the method of claim 11, wherein said data is transmitted using a time-division multiplex duplex method.

Dependent Claim 15 is directed to the method of claim 11, wherein the data is transmitted in a 2.4 GHz band.

Although specification citations are given in accordance with C.F.R. 1.192(c), these citations are merely examples of where support may be found in the specification for the terms used in this section of the Brief. There is no intention to suggest in anyway that the terms of the claims are limited to the examples in the specification. As demonstrated by the citations above, the claims are fully supported by the specification as required by law. However, it is improper

under the law to read limitations from the specification into the claims. Pointing out specification support for the claim terminology as is done here to comply with rule 1.192(c) does not in any way limit the scope of the claims to those examples from which they find support. Nor does this exercise provide a mechanism for circumventing the law precluding reading limitations into the claims from the specification. In short, the specification citations are not to be construed as claim limitations or in any way used to limit the scope of the claims.

VI. Grounds of Rejection to be Reviewed on Appeal

1. Claims 11 and 13 were rejected under 35 U.S.C. §102(b) as being anticipated by *Rohani et al.* (US Patent 5,390,166).

2. Claims 12 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Rohani et al.* (US Patent 5,390,166).

ISSUE

The issue on Appeal is as follows:

1. Was the method for digital radio transmission of data between a fixed station and at least one mobile station at one of a number of carrier frequencies as defined by claims 11 and 13 properly rejected under 35 U.S.C. §102(b) as being anticipated by *Rohani et al.* (US Patent 5,390,166)?

VII. Argument

A. The Claimed Invention

On Appeal, claim 11 is an independent claim and is discussed in detail above. Claims 12, 13 and 15 depend directly from claim 11.

B. Legal Standards

35 U.S.C. §102(b) states that:

> A person shall be entitled to a patent unless -
>
> *****
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Under 35 U.S.C. § 102, anticipation requires that each and every element of the claimed invention be disclosed in the prior art. *Akzo NV v. U.S. International Trade Commission,* 1 U.S.P.Q. 2d 1241, 1245 (Fed. Cir. 1986). The Court of Appeals for the Federal Circuit has held that "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a *single* prior art reference." *Verdegaal Bros v. Union Oil of California,* 814 F.2d 628, 631 (Fed. Cir. 1988) (emphasis added).

C. The Rejection of Claims 11 and 13 Under 35 U.S.C. §102(b) Should Be Reversed Because the *Rohani* Document Does Not Teach Each and Every Element Set Forth in the Claim

Appellants respectfully submit that the rejection of claims 11 and 13 should be reversed because the Examiner failed to show that the disclosure in *Rohan* teaches, either implicitly or explicitly, each and every element recited in claim 11. As such, Applicants respectfully submit that the rejection under 35 U.S.C. §102 is improper and should be reversed.

Independent Claim 11 features the element of "transmitting data in a number of time slots using a time-division multiplex method, said data being transmitting inactive time slots, wherein, each of the active time slots is followed by an inactive time slot in which no data is transmitted, set inactive time slot having a time duration shorter than a time duration of an active time slot." In contrast, *Rohani* merely teaches a frame 40 having time slots for transmitting (e.g., time slot 41) and receiving (e.g. time slot 43) and time slots for switching frequencies, (e.g., time slot 42). Although *Rohani* teaches that a subscriber may not require a full-time slot in which to change frequencies (col. 4, lines 13-17), the reference still only teaches that the system may be designed to receive a transmission burst and change frequencies in a single time slot. As an example, *Rohani* suggests slots 44 and 45 can be portions of a single time slot (col. 4, lines 17-18). Notwithstanding, this teaching is not tantamount to a teaching that meets or suggests the claim element of "each of the active time slots as followed by an inactive time slot in which no data is transmitted, set inactive time slot, having a time duration shorter than a time duration of inactive time slot."

Furthermore, *Rohani* does not teach the claim element of "transmitting data in a number of time slots using a time-division multiplex method." That is, the frame shown in Fig. 4 of this data only contains a single transmit time slot 41, whereas all other "active" time slots (e.g., 43) are used to receive data. No teaching or suggestion is given, however, that the base transmitters 14-16 transmit data in a number of time slots where the data is "transmitted in active time slots, wherein each of the active time slots is followed by an inactive time slot in which no data is transmitted" as featured in claim 11. Such teaching could not even be inferred from *Rohani*, because the frame 40 shown in Fig. 4 and accompanying text (e.g., col. 3, 53-55), teaches that a subscriber receives the same data from each of the different transceivers 14, 15, 16 by switching frequencies to be able to receive from each of these transceivers. Thus, *Rohani* actually would teach away from any inference or suggestion since the carrier frequencies of the transceivers 14-16 appear to be constant, such that the mobile subscriber switches between these fixed frequencies in order to receive substantially the same data from each of these respective transceivers during time slots 43, 45 and 47.

It is also submitted that that the rejection of method claims 11-13 and 15 appears to be inconsistent with the allowance of apparatus claims 16-19 because similar elements occur in the

method and apparatus claims. As was reflected in the Non-Final Response, the examiner previously alleged that an example of different claim language between the elements of claim 11 and claim 16 included the language "each of said active time slots being followed by the inactive time slot in which no data has transmitted" found in claim 16. Although the Applicants continue to disagree with this assertion, the Applicants amended claim 11 to change the word "which" to "the active time slots" so that there would be no confusion as to the intended reference to the active time slots. The Applicants continue to maintain, however, that this amendment in no way changes the intended scope of the claim, but merely serves to perhaps more clearly define the claim elements.

D. The Rejection of Claims 12 and 15 Under 35 U.S.C. §103(a) Should Be Reversed Because the *Rohani* Document Does Not Render the Element Set Forth in the Claim Obvious

In light of the arguments submitted above with respect to Independent Claim 11, it is submitted that Claims 12 and 15, which depend directly from Claim 11, are patentably distinguishable from *Rohani*. As such, the rejection under 35 U.S.C. §103(a) is also improper and should be reversed.

VIII. Conclusion

Appellants' claimed invention set forth in Claims 11-19 is neither taught nor suggested by *Rohani*. The Patent Office has failed to establish that the reference teaches each and every element recited in the claims, and has further failed to establish a *prima facie* case of obviousness with respect to the rejection of the claimed invention. Accordingly, Appellants respectfully submit that the prior art rejections are erroneous in law and in fact and should therefore be reversed by this Board.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY _____

Peter Zura
Reg. No. 48,196
P.O. Box 1135
Chicago, Illinois 60690-1135
Phone: (312) 807-4208

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APPENDIX A

PENDING CLAIMS ON APPEAL OF U.S. PATENT APPLICATION SERIAL NO. 09/446,545

Claim 11. (previously presented): A method for digital radio transmission of data between a fixed station and at least one mobile station at one of a number of carrier frequencies, said method comprising:

transmitting data in a number of time slots using a time-division multiplex method, said data being transmitted in active time slots, wherein each of the active time slots is followed by an inactive time slot in which no data is transmitted, said inactive time slot having a time duration shorter than a time duration of an active time slot; and

changing from a first carrier frequency to a second carrier frequency after a predetermined time period having an order of magnitude of one time slot, wherein changing from the first carrier frequency to the second carrier frequency is performed during the inactive time slot by a RF module.

Claim 12. (original): The method according to claim 11, wherein a time duration of an inactive time slot is half that of a time duration of an active time slot.

Claim 13. (original): The method according to claim 11, wherein said data is transmitted using a time-division multiplex duplex method.

Claim 15. (original): The method according to claim 11, wherein said data is transmitted in a 2.4 GHz band.

APPENDIX B

U.S. Patent No. 5,390,166 ("Rohani et al.")